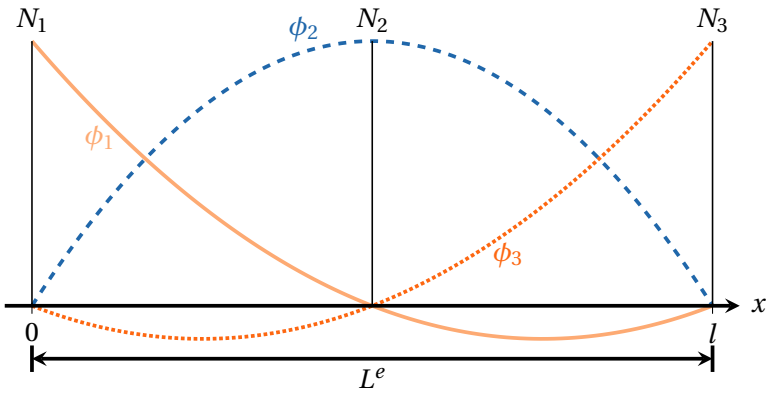

Figure 0.1: Example of analytical one dimensional shape function plots (requires gnuplot)

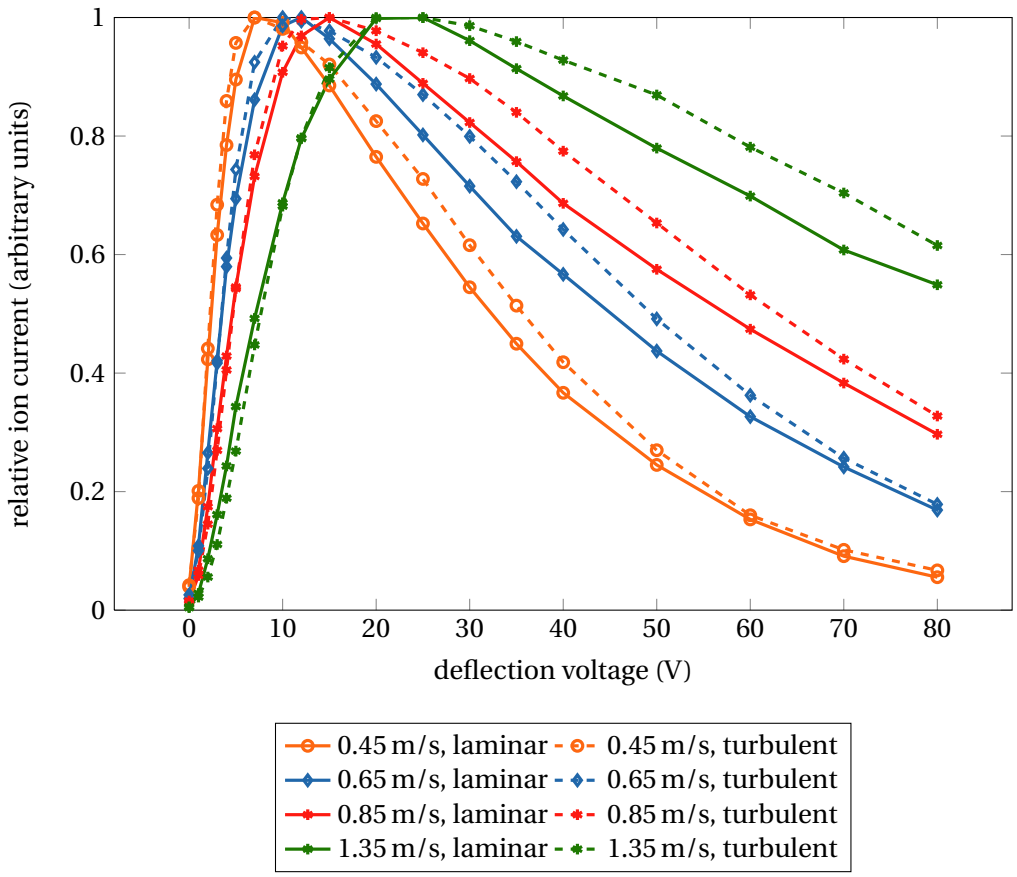

Figure 0.2: *SIMION simulation results:* Effects of the turbulence model on the simulated ion current on the receiver electrode. The general shape of the simulated ion current response on the deflection voltage without turbulence modeling ("laminar") and with $k-\epsilon$ turbulence model ("turbulent") is similar but with turbulence modeling the effect of the gas flow is significantly more pronounced.

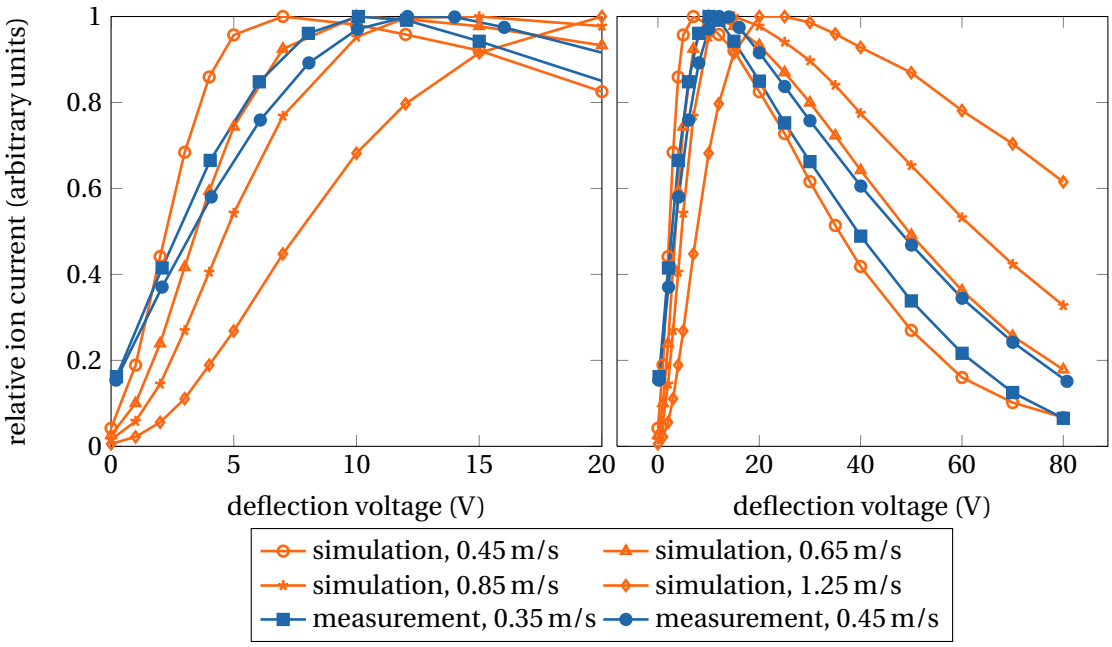

Figure 0.3: *SIMION simulation results:* Simulated ion current on the receiver electrode for different bulk gas flow velocities in comparison to the experimentally determined ion current. The masses of the simulated ions was uniformly distributed between 19 – 350 Da (estimated $K_0 = 3.56 - 1.04 \cdot 10^{-4} \mathrm{m^2 V^{-1} s^{-1}}$)